(54) SYSTEM AND METHOD OF DATA TRANSMISSION RECEPTION, DATA RECEIVER AND DATA RECEPTION METHOD

(57)Abstract:
PROBLEM TO BE SOLVED: To select the quality of data transferred by the request of a user.
SOLUTION: This data receiver 10 is provided with a data transmission reception means 11 that transmits data designation information for desired data and data quality designation information that designates return of prescribed quality of the data and receives the returned data, a decoding means 13 that decodes the received data into an original state, and a reproduction means 14 that recovered the decoded data. A data transmitter 20 is provided with a data storage means 22 storing plural data, a data retrieval processing means 23 that retrieves the corresponding data, based on the data

designation information from the data storage means 22 and provides an output, a data quality conversion means 24 that converts the output data into quality based on the data quality designation information, and a data transmission reception means 21 that receives the data designation information and the data quality designation information and returns the data converted into data having prescribed quality by the data quality conversion means 24 to the data receiver 10.

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3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] A data transceiver means to transmit the data quality assignment information specified that it returns the data specification information which specifies desired data, and the data concerned in predetermined quality, and to receive the above-mentioned data returned, A restoration means to restore the above-mentioned data received with the above-mentioned data transceiver means to the original condition, The data sink which has a playback means to reproduce the data restored by the above-mentioned restoration means, A data storage means by which two or more data are stored, and a data retrieval processing means to search and output the data specified using data specification information from two or more data in which it was stored by the above-mentioned data storage means, A data quality conversion means to

change into predetermined quality the data outputted from the above-mentioned

data retrieval processing means based on the above-mentioned data quality

assignment information, The data transceiver system characterized by having

the data source which has a data transceiver means to return the data which

received the above-mentioned data specification information and the

above-mentioned data quality assignment information, and were changed into

predetermined quality by the above-mentioned data quality conversion means to

the above-mentioned data sink.

[Claim 2] It is the data transceiver system according to claim 1 which two or more

above-mentioned data sinks are connected with the above-mentioned data

source, and the data transceiver means of each data sink adds the discernment

ID for identifying each data sink to the above-mentioned data-specification

information and/or data quality assignment information, transmits it to them, and

is characterized by to return the data transceiver means of the above-mentioned

data source to the data sink which corresponds the data changed into

predetermined quality by the above-mentioned data quality conversion means

with reference to discernment ID.

[Claim 3] It is the data transceiver system according to claim 1 which the

above-mentioned data sink is equipped with the record playback means which carries out record playback of the above-mentioned data received with the above-mentioned data transceiver means through a record medium, and is carried out [restoring the above-mentioned data by which the above-mentioned restoration means was reproduced with the above-mentioned record playback means to the original condition, and] as the description.

[Claim 4] The above-mentioned data quality conversion means of the above-mentioned data source Have the data compression section to which at least two kinds of compressibility was set, and the data outputted from the above-mentioned data retrieval processing means are compressed with the compressibility according to the above-mentioned data quality assignment information. The above-mentioned restoration means of the above-mentioned data sink is a data transceiver system according to claim 1 characterized by elongating the above-mentioned data with the elongation percentage corresponding to the compressibility compressed by the above-mentioned data compression section of the above-mentioned data quality conversion means.

[Claim 5] The data quality conversion means of the above-mentioned data source is a data transceiver system according to claim 1 characterized by

changing the data outputted from the above-mentioned data retrieval processing

means into the predetermined quality according to the genre to which the data

belongs.

[Claim 6] The data quality conversion means of the above-mentioned data

source is a data transceiver system according to claim 4 characterized by

compressing the data outputted from the above-mentioned data retrieval

processing means with the compressibility according to the genre to which the

data belongs.

[Claim 7] It is the data transceiver system according to claim 5 which the table

corresponding to the genre quality which matches the genre to which the data

outputted from the above-mentioned data retrieval processing means belong to

the above-mentioned data source, and the quality to change is prepared, and is

characterized by for the above-mentioned data quality conversion means to

change into predetermined quality the data by which the output was carried out

[above-mentioned] based on the above-mentioned table corresponding to

genre quality.

[Claim 8] It is the data transceiver system according to claim 1 which the table

corresponding to the genre quality which matches the genre to which data

belong, and the quality to change with the above-mentioned data sink is prepared, and is characterized by the above-mentioned data transceiver means of the above-mentioned data sink transmitting the above-mentioned data specification information and data quality assignment information based on the above-mentioned table corresponding to genre quality.

[Claim 9] A data transceiver means to transmit the data specification information which specifies desired data, and to receive the data returned, While receiving the data sink which has a restoration means to restore the data received with the above-mentioned data transceiver means to the original condition, and a playback means to reproduce the data restored by the above-mentioned restoration means, and the above-mentioned data specification information The data transceiver system characterized by having the data source which returns the data specified using the above-mentioned data specification information to a data sink in the predetermined quality according to the genre to which the data belongs.

[Claim 10] It is the data transceiver system according to claim 9 which the above-mentioned data sink is equipped with the record playback means which carries out record playback of the above-mentioned data received with the

above-mentioned data transceiver means through a record medium, and is carried out [restoring the above-mentioned data by which the above-mentioned restoration means was reproduced with the above-mentioned record playback means to the original condition, and] as the description.

[Claim 11] A data storage means by which, as for the above-mentioned data source, two or more data are stored, A data retrieval processing means to search and output the data of predetermined quality according to the genre to which it is specified using the above-mentioned data specification information, and the data belongs from two or more data in which it was stored by the above-mentioned data storage means, The data transceiver system according to claim 9 characterized by having a data transceiver means to return the data outputted from the data retrieval processing means to a data sink while receiving data specification information.

[Claim 12] It is the data transceiver system according to claim 11 which the above-mentioned data transceiver means of the above-mentioned data sink adds the genre information which shows the genre to which the data belongs to the above-mentioned data-specification information, transmits it to it, and is characterized by for the data retrieval processing means of the above-mentioned

data source to search and output the data of the predetermined quality specified

using the above-mentioned data-specification information and the

above-mentioned genre information from two or more data in which it was stored

by the above-mentioned data-storage means.

[Claim 13] A data storage means by which, as for the above-mentioned data

source, two or more data are stored, A data retrieval processing means to

search and output the data specified using the above-mentioned data

specification information from two or more data in which it was stored by the

above-mentioned data storage means, While receiving a data quality conversion

means to change the data outputted from the above-mentioned data retrieval

processing means into the predetermined quality according to the genre to

which the data belongs, and the above-mentioned data specification information

The data transceiver system according to claim 9 characterized by having a data

transceiver means to return the data outputted from the above-mentioned data

quality conversion means to a data sink.

[Claim 14] It is the data transceiver system according to claim 13 which the

above-mentioned data transceiver means of the above-mentioned data sink

adds the genre information which shows the genre to which the data belongs to

the above-mentioned data-specification information, transmits it to it, and is characterized by for the data quality conversion means of the above-mentioned data source to change the data outputted from the above-mentioned data retrieval processing means into the predetermined quality according to the genre to which the data belongs with reference to the above-mentioned genre information.

[Claim 15] The above-mentioned data quality conversion means of the above-mentioned data source Have the data compression section to which at least two kinds of compressibility was set, and the data by which the output was carried out [above-mentioned] are compressed with the compressibility according to the genre to which the data belongs. The above-mentioned restoration means of the above-mentioned data sink is a data transceiver system according to claim 13 characterized by elongating the above-mentioned data with the elongation percentage corresponding to the compressibility compressed by the above-mentioned data compression section of the above-mentioned data quality conversion means of the above-mentioned data transceiver means.

[Claim 16] It is the data transceiver system according to claim 13 which the table

corresponding to the genre quality which matches the genre to which data

belong, and the quality to change with the above-mentioned data source is

prepared, and is characterized by the above-mentioned data quality conversion

means changing into predetermined quality the data outputted from the

above-mentioned data retrieval processing means based on the

above-mentioned table corresponding to genre quality.

[Claim 17] It is the data transceiver system according to claim 9 which the table

corresponding to the genre quality which matches the genre to which data

belong, and the quality to change with the above-mentioned data sink is

prepared, and is characterized by the above-mentioned restoration means of the

above-mentioned data sink restoring the data received with the

above-mentioned data transceiver means based on the above-mentioned table

corresponding to genre quality to the original condition.

[Claim 18] A data transceiver means to transmit the transfer-time assignment

information that the data specification information which specifies desired data,

and the data transfer time amount concerned are specified, and to receive the

data returned, A restoration means to restore the data received with the

above-mentioned data transceiver means to the original condition, While

receiving the data sink which has a playback means to reproduce the data restored by the above-mentioned restoration means, and the above-mentioned data specification information and the above-mentioned transfer-time assignment information The compressibility of the data concerned is computed from the transfer time specified using the data volume of data and the above-mentioned transfer-time assignment information which were specified using the above-mentioned data specification information. The data transceiver system characterized by having the data source which returns the data of the quality corresponding to it to a data sink.

[Claim 19] A data storage means by which, as for the above-mentioned data source, two or more data are stored, A data retrieval processing means to search and output the data specified using the above-mentioned data specification information from two or more data in which it was stored by the data storage means, A compressibility calculation means to compute the compressibility for compressing the data outputted from the above-mentioned data retrieval processing means based on the above-mentioned transfer-time assignment information, A compression means to compress data with the compressibility computed by the above-mentioned compressibility calculation

means, The data transceiver system according to claim 18 characterized by having the data source which has a data transceiver means to return the data which received the above-mentioned data specification information and the above-mentioned transfer-time assignment information, and were compressed by the above-mentioned compression means to the above-mentioned data sink.

[Claim 20] The above-mentioned compressibility calculation means is a data transceiver system according to claim 19 which computes an average transfer rate and is characterized by computing compressibility based on this computed average transfer rate by doing the division of the total capacity of the data specified based on the above-mentioned data specification information by the time amount specified based on the above-mentioned transfer-time assignment information.

[Claim 21] It is the data transceiver system according to claim 20 which the data transceiver means of the above-mentioned data source detects the real transfer rate in which data transfer is possible from the above-mentioned data source to the above-mentioned data sink, and is characterized by the above-mentioned compressibility calculation means computing compressibility based on the difference of the above-mentioned real transfer rate and the above-mentioned

average transfer rate.

[Claim 22] The data transmitting and receiving method output, change the data which outputted into predetermined quality based on directions of the above-mentioned quality, return, search from two or more data in which the data which should return, and the data quality concerned at the time of return directed, and the directed above-mentioned data which should carry out return were stored by the storage, and carry out [receive the returned above-mentioned data and] restoring the above-mentioned data which received to the original condition, and reproducing as the description.

[Claim 23] The data transmitting and receiving method according to claim 22 which once memorizes the above-mentioned data which carried out [above-mentioned] reception, and is characterized by restoring the memorized above-mentioned data to the original condition, and reproducing.

[Claim 24] The data transmitting and receiving method according to claim 22 characterized by elongating the above-mentioned data which compressed the data which carried out [above-mentioned] the output with predetermined compressibility, returned them based on directions of the above-mentioned quality, and carried out [above-mentioned] reception with the elongation

percentage corresponding to the above-mentioned compressibility, and reproducing.

[Claim 25] The data transmitting and receiving method according to claim 22 characterized by changing and returning the data which carried out [above-mentioned] the output to the predetermined quality according to the genre to which the data belongs.

[Claim 26] The data transmitting and receiving method according to claim 24 characterized by compressing and returning the data which carried out [above-mentioned] the output with the compressibility according to the genre to which the data belongs.

[Claim 27] The data transmitting and receiving method according to claim 25 characterized by changing into predetermined quality the data which carried out [above-mentioned] the output using the table corresponding to the genre quality which matches the genre to which data belong, and the above-mentioned predetermined quality.

[Claim 28] The data transmitting and receiving method according to claim 22 characterized by directing the data which should be returned using the table corresponding to the genre quality which matches the genre to which data

belong, and the above-mentioned predetermined quality, and the data quality

concerned at the time of return.

[Claim 29] The data transmitting and receiving method characterized by directing

the data which should be returned, returning the directed above-mentioned data

which should carry out return in the predetermined quality according to the genre

to which the data belongs, receiving the returned above-mentioned data,

restoring the received data to the original condition, and reproducing.

[Claim 30] The data transmitting and receiving method according to claim 29

which once memorizes the above-mentioned data which carried out

[above-mentioned] reception, and is characterized by restoring the memorized

above-mentioned data to the original condition, and reproducing.

[Claim 31] The data transmitting and receiving method according to claim 29

characterized by searching and returning the data of predetermined quality

according to the genre to which two or more data to the data concerned stored in

the record medium belong about the directed above-mentioned data which

should carry out return.

[Claim 32] The data transmitting and receiving method according to claim 31

characterized by directing the genre to which the data concerned belong with the

data which should be returned, and searching and returning the data of the

above-mentioned predetermined quality based on the directions concerned.

[Claim 33] The data transmitting and receiving method according to claim 29

which searches from two or more data in which the directed above-mentioned

data which should carry out return were stored by the record medium, outputs

and is characterized by changing and returning the outputted data to the

predetermined quality according to the genre to which the data belongs.

[Claim 34] The data transmitting and receiving method according to claim 33

characterized by to change and return the predetermined quality according to

the above-mentioned genre to which the data which searched from two or more

data in which the genre to which the data concerned belong was directed, and

the directed above-mentioned data which should carry out return were stored by

the record medium, outputted, and were outputted were directed with the data

which should be returned.

[Claim 35] The data transmitting and receiving method according to claim 33

characterized by elongating the above-mentioned data which compressed the

data which carried out [above-mentioned] the output with the compressibility

according to the genre to which the data belongs, returned, and were received

with the elongation percentage corresponding to the above-mentioned

compressibility, and reproducing.

[Claim 36] The data transmitting and receiving method according to claim 33

characterized by changing the data which carried out [above-mentioned] the

output using the table corresponding to the genre quality which matches the

genre to which data belong, and the quality to change into predetermined quality.

[Claim 37] The data transmitting and receiving method according to claim 29

characterized by restoring the data received using the table corresponding to the

genre quality which matches the genre to which data belong, and the quality to

change to the original condition.

[Claim 38] The data transmitting and receiving method characterized by the data

which should be returned, and the data transfer time amount concerned at the

time of return being directed, computing the compressibility of the data

concerned from the data volume of data and the above-mentioned transfer time

which were directed, returning the data of the quality corresponding to it,

receiving the returned above-mentioned data, restoring the received

above-mentioned data to the original condition, and reproducing.

[Claim 39] The data transmitting and receiving method according to claim 38

which searches the data concerned from two or more data stored in the record medium about the directed above-mentioned data which should carry out return, outputs, and is characterized by compressing and returning data with the computed compressibility.

[Claim 40] The data transmitting and receiving method according to claim 39 which computes an average transfer rate and is characterized by computing compressibility based on this computed average transfer rate by doing a division by the transfer time to which the total capacity of the data which should be returned was directed based on directions of the data which should be returned.

[Claim 41] The data transmitting and receiving method according to claim 40 characterized by detecting the real transfer rate in which data transfer is possible, and computing compressibility based on the difference of the above-mentioned real transfer rate and the above-mentioned average transfer rate.

[Claim 42] A data transceiver means to transmit the data quality assignment information specified that it returns the data specification information which specifies desired data, and the data concerned in predetermined quality, and to receive the data returned, In a data sink equipped with a restoration means to restore the above-mentioned data received with the above-mentioned data

transceiver means to the original condition, and a playback means to reproduce the data restored by the above-mentioned restoration means The table corresponding to the genre quality which matches the genre to which data belong, and the quality to change is prepared. The above-mentioned data transceiver means It is the data sink which transmits the above-mentioned data specification information and data quality assignment information based on the above-mentioned table corresponding to genre quality, and is characterized by the above-mentioned restoration means elongating the data received with the above-mentioned data transceiver means with the elongation percentage corresponding to the above-mentioned data quality assignment information.

[Claim 43] The above-mentioned data transceiver means is a data sink according to claim 42 characterized by adding the discernment ID for identifying a user to the above-mentioned data specification information and/or data quality assignment information, and transmitting to them.

[Claim 44] It is the data sink according to claim 42 which is equipped with the record playback means which carries out record playback of the data received with the above-mentioned data transceiver means, and is characterized by the above-mentioned restoration means restoring the data reproduced by the

above-mentioned record playback means to the original condition.

[Claim 45] A data transceiver means to transmit the data specification information which specifies desired data, and to receive the data returned, In a data sink equipped with a restoration means to restore the above-mentioned data received with the above-mentioned data transceiver means to the original condition, and a playback means to reproduce the data restored by the above-mentioned restoration means The above-mentioned data transceiver means is a data sink characterized by adding the time amount assignment information specified that it returns the above-mentioned data within predetermined time amount to the above-mentioned data specification information, and transmitting to it.

[Claim 46] In the data receiving approach which directs the data which should be returned, and the data quality concerned at the time of return, receives the data returned, restores the received above-mentioned data to the original condition, and is reproduced The data receiving approach characterized by elongating the data which directed the data which should be returned using the table corresponding to the genre quality which matches the genre to which data belong, and the quality to change, and the data quality concerned at the time of

return, and received them with the elongation percentage according to the genre of the directed data.

[Claim 47] The data receiving approach of the claim approach 46 publication which once memorizes the received data and is characterized by restoring the memorized above-mentioned data to the original condition, and reproducing.

[Claim 48] The data receiving approach according to claim 46 characterized by elongating the received data with predetermined elongation percentage, and reproducing.

[Claim 49] The data receiving approach according to claim 46 characterized by directing to return the above-mentioned data which should carry out return within predetermined time amount.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention is used suitable for the data service system which distributes digital data to a data transceiver system and a data transmitting and receiving method list, concerning a data sink and the data receiving approach.

[0002]

[Description of the Prior Art] It became realizable [the service which distributes digital data, such as so-called VOD (Video On Demand), MOD (Music On Demand), etc., in the data transceiver system built between a user side and a

server side by development of data compression techniques, such as an image and voice, and development of the digital-signal-processing technique in the broadcast/communication link field].

[0003]

[Problem(s) to be Solved by the Invention] However, in the conventional data transceiver system, not only the contents of data but the data transfer method was a service supply side beforehand, and since it will be decided uniformly (for example, since a lot of data are sent even if it is the case where the data of high quality are not needed so much when receiving data mass by the receiving side), much time amount was spent on the reception concerned.

[0004] Specifically in the system of the conventional above MOD Since a user cannot choose the data quality concerned when downloading the data concerned which request data with a receiving side and are sent from a transmitting side to a hard disk etc. for example, in downloading the data of the music guide about guidance of a list of music data, an artist, a music name, etc., etc. In spite of not needing the data of high quality so much generally, as a result of sending a lot of data, there was a problem that many time amount and tariffs started.

[0005] Moreover, in the system of the conventional above VOD, when the image data concerned were reproduced using the monitoring device by the small screen since a user cannot choose the image data quality which wants to receive for example, there was a problem that the data of superfluous quality were sent.

[0006] Thus, in the conventional data transceiver system, a demand of a user was not fully reflected about a data transfer method, but the data supplied to a receiving side from a transmitting side were superfluous quality, or since the time amount of download became huge, confusion of the telephone line etc. was caused depending on the access situation from each user, and there were various troubles of having kept download at arm's length by the receiving side by relation with a tariff etc. depending on data.

[0007] This invention is proposed in view of the above-mentioned actual condition, and aims at offering the data transceiver system which can choose the data quality transmitted to a receiving side from a transmitting side according to the demand by the side of a user, a data transmitting and receiving method, the data sink used by this data transceiver system, and the data receiving approach.

[0008] Moreover, this invention is proposed in view of the above-mentioned

actual condition, and aims at offering the data transceiver system by which the demand of a user was reflected about a data transfer method or the transfer time.

[0009]

[Means for Solving the Problem] The data quality assignment information specified that it returns the data specification information which specifies desired data, and the data concerned in predetermined quality in order that the data transceiver system concerning this invention may solve the above-mentioned technical problem is transmitted. A data transceiver means to receive the data returned, and a restoration means to restore the data received with the data transceiver means to the original condition, The data sink which has a playback means to reproduce the data restored by the restoration means, A data storage means by which two or more data are stored, and a data retrieval processing means to search and output the data specified using data specification information from two or more data in which it was stored by the data storage means, A data quality conversion means to change into predetermined quality the data outputted from the data retrieval processing means based on data quality assignment information, Data specification information and data quality assignment information are received, and it has the data source which has a

data transceiver means to return the data changed into predetermined quality by the data quality conversion means to a data sink.

[0010] In a data transceiver system, the data from which the data quality conversion means of the data source changed data into predetermined quality, and was changed are returned to a data sink side based on the data quality assignment information from a data sink.

[0011] Moreover, the data transceiver system concerning this invention A data transceiver means to transmit the data specification information which specifies desired data, and to receive the data returned in order to solve the above-mentioned technical problem, While receiving the data sink which has a restoration means to restore the data received with the data transceiver means to the original condition, and a playback means to reproduce the data restored by the restoration means, and data specification information It has the data source which returns the data specified using data specification information to a data sink in the predetermined quality according to the genre to which the data belongs.

[0012] In a data transceiver system, the data with which the data source corresponds based on the data specification information from a data sink are

returned to a data sink in the predetermined quality based on the genre to which the data belongs.

[0013] Furthermore, the data transceiver system concerning this invention A data transceiver means to transmit the transfer-time assignment information that the data specification information which specifies desired data, and the data transfer time amount concerned are specified in order to solve the above-mentioned technical problem, and to receive the data returned, While receiving the data sink which has a restoration means to restore the data received with the data transceiver means to the original condition, and a playback means to reproduce the data restored by the restoration means, and data specification information and transfer-time assignment information The compressibility of the data concerned is computed from the transfer time specified using the data volume and transfer-time assignment information on the data specified using data specification information, and it has the data source which returns the data of the quality corresponding to it to a data sink.

[0014] In a data transceiver system, based on the data specification information and transfer-time assignment information from a data sink, the data source computes the compressibility of the data concerned and the data of the quality

corresponding to it are returned to a data sink.

[0015] In order that the data transmitting and receiving method concerning this invention may solve the above-mentioned technical problem, the data which should be returned, and the data quality concerned at the time of return are directed. The outputted data are changed into predetermined quality based on directions of quality, and it returns, and the returned data are received, and it searches from two or more data in which the directed data which should be returned were stored by the storage, and reproduces [it outputs and / the received data are restored to the original condition and].

[0016] Based on directions of the quality from a user side, by returning this data, data are changed into predetermined quality by the server side, and it is received by the user side, and it is restored to the original condition and reproduced after reception in a data transmitting and receiving method.

[0017] Moreover, the directed data which should be returned are returned in the predetermined quality according to the genre to which the data belongs, the data transmitting and receiving method concerning this invention receives the returned data, and the data which should be returned in order to solve the above-mentioned technical problem are directed, and it is reproduced [it

restores the received data to the original condition, and].

[0018] In a data transmitting and receiving method, data are returned in the predetermined quality according to the genre to which the data concerned belong based on directions of the data which should be returned.

[0019] Furthermore, the compressibility of the data concerned is computed from the data volume of data and the transfer time which were directed, the data of the quality corresponding to it are returned, the data transmitting and receiving method concerning this invention receives the returned data, and the data which should be returned in order to solve the above-mentioned technical problem, and the data transfer time amount concerned at the time of return are directed, and it is reproduced [it restores the received data to the original condition, and].

[0020] In a data transmitting and receiving method, based on directions of the data which should be returned, and the data transfer time amount concerned at the time of return, the compressibility of the data concerned is computed from the data volume of data and the transfer time which were directed, and the data of the quality corresponding to it are returned.

[0021] The data quality assignment information specified that it returns the data specification information which specifies desired data, and the data concerned in

predetermined quality in order that the data sink concerning this invention may solve the above-mentioned technical problem is transmitted. In a data sink equipped with a data transceiver means to receive the data returned, a restoration means to restore the data received with the data transceiver means to the original condition, and a playback means to reproduce the data restored by the restoration means The table corresponding to the genre quality which matches the genre to which data belong, and the quality to change is prepared. A data transceiver means Transmitting data specification information and data quality assignment information based on the table corresponding to genre quality, a restoration means elongates the data received with the data transceiver means with the elongation percentage corresponding to data quality assignment information.

[0022] In a data sink, based on the table corresponding to genre quality, data specification information and data quality assignment information are transmitted, and after receiving the request returned based on each [these] information, and the data based on predetermined quality and elongating this received data with the elongation percentage corresponding to data quality assignment information, it is reproduced by the playback means.

[0023] Moreover, a data transceiver means to transmit the data specification information which specifies desired data, and to receive the data returned in order that the data sink concerning this invention may solve the above-mentioned technical problem, In a data sink equipped with a restoration means to restore the data received with the data transceiver means to the original condition, and a playback means to reproduce the data restored by the restoration means A data transceiver means adds the time amount assignment information specified that it returns data within predetermined time amount to data specification information, and is transmitted to it.

[0024] In order that the data receiving approach concerning this invention may solve the above-mentioned technical problem, the data which should be returned, and the data quality concerned at the time of return are directed. In the data receiving approach which receives the data returned, restores the received data to the original condition, and is reproduced The data which directed the data which should be returned using the table corresponding to the genre quality which matches the genre to which data belong, and the quality to change, and the data quality concerned at the time of return, and received them with the elongation percentage according to the genre of the directed data are elongated.

[0025]

[Embodiment of the Invention] It explains to a detail, referring to a drawing about the gestalt of the operation which applied this invention. The data transceiver system 1 shown in drawing 1 which applied this invention has the composition that the data sink 10 which are the so-called music and a system for on demand one, and is a terminal unit by the side of a user, and the data source 20 which is a terminal unit by the side of a server are connected through the communication lines 30, such as the telephone line. Here, a data sink 10 is installed in for example, each user's home etc. as a noncommercial use. On the other hand, for example, the data control pin center,large by the side of a server etc. is equipped with the data source 20. In addition, although only one shows the data sink 10 for convenience by drawing 1 , two or more data sinks 10 will be connected with the data source 20 by the side of a server through a communication line 30 in fact.

[0026] A data sink 10 is equipment for transmitting request information to the data source 20 by the side of a server based on a demand of a user, receiving the data returned from the data source 20 concerned based on this request information, and performing record and/or playback of the data concerned. The

modem 11 which connects with the data source 20 through a communication line 30, and transmits and receives data as this data sink 10 is shown in drawing 1 , The hard disk drive 12 which stores the data received with the modem 11 (HDD), The adjustable elongation section 13 which elongates the data received with the modem 11, and the regeneration section 14 which gives predetermined regeneration to the data outputted from the adjustable elongation section 13, It has the output section 15 which consists of the loudspeaker which is not illustrated, a monitor, a headset jack, etc., the control section 16 which performs control of the whole equipment, and the actuation input section 17 which consists of a keyboard which is not illustrated for giving directions to a control section 16, a mouse, etc., and is constituted.

[0027] A modem 11 transmits the request information which mentions later the detail supplied from a control section 16 to a data source 20 side while connecting with the data source 20 through a communication line 30. Moreover, a modem 11 receives the data returned from the data source 20 based on the above-mentioned request information, and supplies the data concerned to HDD12 and the adjustable elongation section 13. In addition, each above-mentioned actuation of a modem 11 is performed based on the control

signal from a control section 16.

[0028] HDD12 is recorded on this hard disk by using as record data the above-mentioned data which come to have the hard disk which is not illustrated for storing the data returned from the data source 20, and are supplied from a modem 11. HDD12 records the management data about the data name of the data concerned, record time of day, a compression method, etc. on that management domain (it is called Following TOC.) while recording data, such as music returned with the gestalt of compressed data, from the data source 20 which mentions a detail later to the data area of a hard disk at the time of this data logging. Moreover, when reproducing the stored above-mentioned data, HDD12 reads the above-mentioned record data, and supplies them to the adjustable elongation section 13. In addition, each above-mentioned actuation of HDD12 is performed based on the control signal from a control section 16.

[0029] The adjustable elongation section 13 elongates data, such as music returned with the gestalt of the above-mentioned compressed data from the data source 20 through a modem 11, with the elongation method according to the compression method concerned based on the control signal from a control section 16, and supplies the data after elongation to the regeneration section 14.

Moreover, also about the above-mentioned record data outputted from HDD12, based on the control signal from a control section 16, it elongates with the elongation method according to the compression method concerned, and the adjustable elongation section 13 supplies the data after elongation to the regeneration section 14.

[0030] In addition, this adjustable elongation section 13 corresponds to the adjustable compression zone 24 of the data source 20 mentioned later. And although the elongation method is an ATRAC method since the above-mentioned adjustable compression zone 24 uses the ATRAC (Adaptive Transform Acoustic Coding) method like the after-mentioned, the adjustable elongation section 13 in the gestalt of this operation It responds to the compression method of the above-mentioned adjustable compression zone 24. TwinVQ (Transform domain Weighted Interleave Vector Quantization), It is good also as other elongation methods, such as RealAudio and MPEG (moving picture coding experts group).

[0031] By performing D/A conversion, magnification processing, etc. to the data after the above-mentioned elongation supplied from the adjustable elongation section 13 based on the control signal from a control section 16, the

regeneration section 14 generates the regenerative signal of an analog, and supplies this regenerative signal to the above-mentioned loudspeaker and headset jack of the output section 15. Thereby, in a data sink 10, voice is outputted from the loudspeaker of the output section 15.

[0032] In addition, the output section 15 is equipped with the monitor which has display screen 15a mentioned later. This monitor displays an image by the control signal and RF signal from a control section 16.

[0033] A control section 16 is constituted by the personal computer etc. This control section 16 is equipped with the control program for acquiring data, such as the above-mentioned music, from the data source 20 through a communication line 30, and controls the above-mentioned monitor of a modem 11, HDD12, the adjustable elongation section 13, the regeneration section 14, and the output section 15 by performing this control program. In addition, it connects with the above-mentioned actuation input section 17, and a control section 16 performs each control in the above-mentioned control program based on the control input signal inputted by the above-mentioned keyboard of this actuation input section 17, and actuation of a mouse.

[0034] User ID for a control section 16 to specifically identify a user, Data names,

such as genre information about the genre of data, such as music which a user

wants, a player name of data, such as the music concerned, and a title name (it

is hereafter called a contents name.) about, while transmitting to the data source

20 by making contents information into data specification information A modem

11 is controlled to transmit to the data source 20 by making into data quality

information information for specifying the quality about the data concerned sent

from the data source 20. Furthermore, a control section 16 controls a modem 11

to transmit to the data source 20 by making into transfer-time assignment

information information for specifying the transfer time about the data concerned

sent from the data source 20. That is, data specification information, data quality

information, and transfer-time assignment information are included, and request

information becomes, as shown in drawing 1 . Here, the above-mentioned user

ID of data specification information is beforehand registered by initial setting of a

control program.

[0035] In addition, therefore, it is made to perform the input to a control section

16 for operating the keyboard or mouse of the actuation input section 17 by the

so-called technique of GUI (Graphical UserInterface) after starting of the

above-mentioned control program through the monitor of the output section 15,

for example. As shown in drawing 2 , specifically, the genre selection section 5

for choosing the transfer-time setting section 4 for setting up about the quality

setting section 3 for setting up about the data quality returned from the contents

name input section 2 for inputting the above-mentioned contents name and the

data source 20 and the data transfer time amount returned and the genre of the

data returned from the upper part of display screen 15a of a monitor is displayed.

[0036] If one as which a user is first displayed by the genre selection section 5

on such display screen 15a, for example of genres is specified with a mouse etc.,

while the list of the contents names in the genre concerned will be displayed,

cursor moves so that it may become the input waiting to the contents name input

section 2. Furthermore, if a user operates a keyboard, inputs a predetermined

data name etc. into this contents name input section 2 and presses a return key,

while the above-mentioned user ID beforehand registered into the control

section 16 will be added and the above-mentioned data specification information

will be generated by the control section 16, it will be in the state waiting for a

setting of the quality setting section 3 and the transfer-time setting section 4.

[0037] Here, in the quality setting section 3 and the transfer-time setting section

4, as shown in drawing 2 , the directions sections 3b and 4b can move now in

the AB direction by actuation of a mouse etc. in display scale 3a and 4a top, respectively. In the quality setting section 3, when directions section 3b is moved to the A side, the data of high quality are directed, and when it is made to move to the B side, it is a setup which directs the data of low quality. On the other hand, in the transfer-time setting section 4, when directions section 4b is moved to the A side, the transfer time becomes long, and when it is made to move to the B side, the transfer time serves as a setup which becomes short. And if a user performs a setup of a data quality and the transfer time by actuation of a mouse etc., the above-mentioned data quality information and transfer-time assignment information will be generated by the control section 16.

[0038] In addition, when one which is displayed on the genre selection section 5 of genres is specified with a mouse etc. in a setup of the quality setting section 3 and the transfer-time setting section 4, it is desirable to make it display recommendation quality and the transfer time corresponding to the quality on display screen 15a.

[0039] And to be shown in drawing 1 , a control section 16 doubles these data specification information, data quality information, and transfer-time assignment information, and controls a modem 11 as request information to transmit to the

data source 20 at once.

[0040] Moreover, a control section 16 controls a modem 11 and the adjustable elongation section 13 to elongate the data concerned and to make it the data before compression about data, such as music returned with the gestalt of compressed data from the data source 20 after transmission of this request information. Furthermore, a control section 16 controls the regeneration section 14 to make into the regenerative signal of an analog the data before the compression generated by the adjustable elongation section 13. In this way, in a data sink 10, data, such as music which received, will be outputted from the loudspeaker of the output section 15 on real time.

[0041] In addition, in saving data, such as this music, the above-mentioned control section 16 controls a modem 11 and HDD12 to record on a hard disk by using as record data data, such as music sent with the gestalt of compressed data from the data source 20. And a control section 16 controls the adjustable elongation section 13 to elongate the record data concerned and to make it the data before compression while controlling HDD12 to read the record data concerned from a hard disk, and to supply the adjustable elongation section 13, when reproducing the record data concerned. Furthermore, a control section 16

controls the regeneration section 14 to make into the regenerative signal of an analog the data before the compression generated by the adjustable elongation section 13. In a data sink 10, the record data stored in the hard disk will be reproduced in this way, and it will be outputted from the loudspeaker of the output section 15.

[0042] The data source 20 by the side of a server searches the data which receive the above-mentioned request information supplied from the data sink 10 by the side of a user through a communication line 30, and correspond based on the received request information, and is equipment for compressing the searched data by the predetermined compression method, and returning compressed data to the above-mentioned data sink 10 through a communication line 30.

[0043] The modem 21 which connects with the data sink 10 by the side of a user through a communication line 30, and transmits and receives data as this data source 20 is shown in drawing 1 , The mass hard disk array 22 in which data, such as two or more music, were stored, It has the data retrieval processing section 23 which searches the above-mentioned data which carry out relevance, the adjustable compression zone 24 which compresses the data searched with

this data retrieval processing section 23 by the predetermined compression method, and the control section 25 which performs control of the whole equipment, and consists of this hard disk array 22.

[0044] A modem 21 receives the above-mentioned request information which the above-mentioned data sink 10 transmits, and supplies this request information to a control section 25 while connecting with a data sink 10 through a communication line 30. Moreover, a modem 21 transmits the data after the compression supplied from the adjustable compression zone 24 which mentions a detail later to a data sink 10 side. In addition, each above-mentioned actuation of a modem 21 is performed based on the control signal from a control section 25.

[0045] The voice data of others about the music data for realizing music on demand, the data of a music guide, news, a weather report, etc. is stored in the hard disk array 22.

[0046] The data retrieval processing section 23 receives the request information from the data sink 10 received by the modem 21 through a control section 25, and performs retrieval processing which searches the data which correspond out of data, such as much music stored in the hard disk array 22, based on the

above-mentioned data specification information of this request information. And the data retrieval processing section 23 reads this corresponding data from the hard disk array 22, and outputs it to the adjustable compression zone 24. In addition, each above-mentioned actuation of the data retrieval processing section 23 is performed based on the control signal from a control section 25.

[0047] The adjustable compression zone 24 performs compression processing which compresses the data supplied from the above-mentioned data retrieval processing section 23 with a predetermined compression method based on the above-mentioned data quality information of the request information, and the control signal from a control section 25. In addition, about this compression method, although the ATRAC method is used with the gestalt of this operation so that it may mention later, other compression methods, such as TwinVQ, RealAudio, MPEG, etc. which were mentioned above, may be used.

[0048] The control section 25 is equipped with the transmission-control program for transmitting data, such as corresponding music, to a data sink 10 by the predetermined compression method based on the above-mentioned request information sent from a data sink 10 through a communication line 30, and performs control of a modem 21, the data retrieval processing section 23, and

the adjustable compression zone 24 based on this transmission-control program.

[0049] A control section 25 receives the request information transmitted from a data sink 10 through a communication line 30, and, specifically, controls a modem 21 to supply the received request information to a control section 25. A control section 25 supplies this request information to the data retrieval processing section 23 while once memorizing the request information supplied from the modem 21. In addition, a control section 25 extracts only data specification information from this request information, and you may make it supply it to the data retrieval processing section 23 at this time.

[0050] Moreover, a control section 25 controls the data retrieval processing section 23 to perform retrieval processing mentioned above based on the above-mentioned data specification information of the request information, to read the searched data from the hard disk array 22, and to output to the adjustable compression zone 24.

[0051] Furthermore, a control section 25 performs compression processing mentioned above about the data supplied from the above-mentioned data retrieval processing section 23 based on the above-mentioned data quality information of the request information, and transfer-time assignment information,

and controls the adjustable compression zone 24 to output the data after compression to a modem 21. And a control section 25 controls a modem 21 to transmit the data after the compression supplied from the adjustable compression zone 24 to a data sink 10 side with reference to the user ID of the above-mentioned data specification information.

[0052] Next, one example of the above-mentioned compression processing by the adjustable compression zone 24 and control section 25 of the data source 20 is explained with reference to drawing 3 . The adjustable compression zone 24 of the data source 20 performs compression processing of data with the gestalt of this operation with the compression method of either ATRAC1, ATRAC2, ATRAC2mono and ATRAC2Vmono. in addition, the above -- about whether which compression method performs compression processing, when the above-mentioned control section 25 outputs a predetermined control signal to the adjustable compression zone 24 with reference to the above-mentioned genre information, data quality information, and transfer-time assignment information in request information, it is determined. Thereby, in the data source 20, data, such as music, can be supplied to a data sink 10 side with various compressibility (compression rate) according to the genre of the data stored in

the demand of a user and the hard disk array 22. The table (henceforth a data quality table) as shown in drawing 3 which matches the genre and data quality of the above-mentioned data is specifically beforehand set to the control section 25 in activation of the above-mentioned compression processing, and the adjustable compression zone 24 is controlled based on this data quality table.

[0053] In the data quality table, as shown in drawing 3 , the compression method of the data transmitted to a data sink 10 side is set as four kinds of C1 thru/or C4 here. the compression method C1 -- the method of ATRAC1 with the lowest compressibility, and the compression method C2 -- the method of ATRAC2, and the compression method C3 -- the method of ATRAC2mono, and the compression method C4 -- the method (it is called .... since it is [the following and] the facilities of explanation -- only -- C1 and C2 --) of ATRAC2Vmono it is -- compressibility becomes high at the order of C1, C2, C3, and C4. Moreover, it is a setup whose C3 and C4 C1 and C2 transmit data in a stereo, and transmit data by the monophonic recording.

[0054] By this, when transmitting the data of the specified quantity by predetermined time, C4 should just transmit with the transfer rate of the band which is 8kHz, and 32Kbps(es), respectively with the transfer rate of the band

whose C3 is 16kHz in the transfer rate of the band whose C2 is 16kHz in the transfer rate of the band whose C1 is 16kHz, and 256Kbps(es), and 128Kbps, and 64Kbps(es).

[0055] Thus, although data transfer will take time amount and C4 is a compression method with low quality with the highest and compressibility on the other hand since the total amount of the data transmitted although compressibility is low and C1 is the compression method of high quality most with the gestalt of this operation is relatively large, since the total amount of the data transmitted becomes small relatively, a data transfer time will be shortened remarkably. Thus, a user can choose a data transfer rate by enabling it to set the compressibility of data as the various modes according to self various situations, such as time amount and a tariff side.

[0056] Furthermore, with the gestalt of this operation, after taking the inclination of a user's general need into consideration, as shown in drawing 3 , according to the genre of data, such as music, the selectable number of above-mentioned compression methods is limited to some extent. Generally about the data of classical music and jazz music, as for such music, the data transfer in high quality was greatly required for the dynamic range, and since the need of the

data transfer in low quality is low, specifically, the compression method is limited only to C1 or C2.

[0057] Moreover, although the data transfer in high quality generally is not required like classical music or jazz music due to the above-mentioned dynamic range etc. about the data of lock music, since the need of the data transfer in a monophonic recording or low quality is low, the compression method is limited only to C2.

[0058] Furthermore, very, and need takes confusion of a communication line 30 etc. into consideration, and enables it to choose not only C2 but C3 of a monophonic recording for a compression method about the data of popular music compared with the above-mentioned classical music etc. generally.

[0059] About the data of the music guide for guiding a list, a new artist, a new song, etc. of for example, each above-mentioned music data, it is frequently required from a user, and since there is especially no need of transmitting in a stereo and, it limits the compression method only to C3 of a monophonic recording further again.

[0060] Moreover, since it is necessary about data, such as news or a weather report, to shorten the transfer time as much as possible in order to tell a user the

newest prompt information, the compression method is limited to C3 of a monophonic recording, or C4.

[0061] In addition, although the compression method is limited to one of the C2 about the data of lock music with the gestalt of this operation, of course, you may enable it to choose the method of C1 as well as the case of the data of classical music or jazz music. Although the compression method is limited to one of the C3 about the data of a music guide, you may enable it similarly to choose the method of C4 as well as the case of data, such as news or a weather report, with the gestalt of this operation, for example. Furthermore, in order to attain much more shortening of a data transfer time, the method of C5 compressed into a data quality table by the method of ATRAC4 may be added. In this case, when transmitting the data of the specified quantity mentioned above by predetermined time, what is necessary will be just to transmit with the transfer rate of a 8kHz band and 16Kbps(es).

[0062] Thus, with the gestalt of this operation, since the selectable number of compression methods is limited to some extent according to the genre of data, such as music, using a data quality table, the optimal compression method corresponding to a user's need can be set up, and the cost reduction about the

evasion and data transfer of confusion of a communication line 30 at the time of data transfer etc. can be planned. That is, thereby, the futility on a system is excluded and use and offer of efficient service are attained by both the user and the service provider.

[0063] In addition, in the data transceiver system 1, it is good also as a configuration which prepares a data quality table in a data sink 10 side. In this case, it is made to make the data quality information mentioned above generate based on a data quality table. Moreover, since the compression method of the data sent from the data source 20 is beforehand known by the data sink 10 side in this case, based on this data quality table, the adjustable elongation section 13 is controllable. Furthermore, of course in the data transceiver system 1, it is good also as a configuration which prepares the both sides by the side of a data sink 10 and the data source 20 a data quality table.

[0064] Next, it explains according to the flow chart which shows the flow of the processing about the transmission and reception of data performed between the data sinks 10 and the data sources 20 in this data transceiver system 1 to drawing 4 .

[0065] The data sink 10 by the side of a user shifts to the input mode about the

genre of the data for generating the request information which consists of the above-mentioned data specification information and data quality information, a contents name, the quality at the time of a transfer, the transfer time, etc. in step S1 after control program starting by controlling to perform a display as a control section 16 shows to display screen 15a of a monitor at above-mentioned drawing 2 . Here, a user determines the genre of the data to demand, a contents name, the quality at the time of a transfer, and the transfer time by performing the above alter operation. It once memorizes in the memory which data specification information, data quality information, and transfer-time assignment information are generated by the control section 16, doubles each [these] information in a data sink 10 by this, and a control section 16 does not illustrate as request information. And if this storage is completed, it will progress to step S2.

[0066] In addition, at step S1, when only the genre and contents name of data which a user demands are inputted, based on the recommendation quality in the genre belonging to the data concerned mentioned above, and the transfer time corresponding to the quality, data quality information and transfer-time assignment information are generated. In this case, what is necessary is just to

suppose that a data quality table is prepared in a data sink 10 side.

[0067] Moreover, it is good also as making a user input alternatively the quality and the transfer time at the time of the data transfer to demand at step S1. Furthermore, it is good also as making a user input the data transfer time amount to demand concretely per a part unit or second at step S1. In addition, about the concrete processing in this case, it mentions later.

[0068] In step S2, a control section 16 reads the generated above-mentioned request information from the above-mentioned memory, and controls a modem 11 to transmit to the data source 20 through a communication line 30.

[0069] And when a control section 25 controls the data retrieval processing section 23 to search the corresponding data from the hard disk array 22 based on the contents information on data specification information, the data source 20 by the side of the server which received this request information performs retrieval processing of data (step S3), and reads the searched data from the hard disk array 22.

[0070] The control section 25 of the data source 20 performs compression processing of data in continuing step S4 by controlling the adjustable compression zone 24 to change the data supplied from the data retrieval

processing section 23 into the quality which the user specified based on request information and the data quality table specifically shown in genre information, data quality information or transfer-time assignment information, and drawing 3 . The genre of the data which the user chose is classical music, and when the data quality which the user specified is high quality (or the transfer time long time), specifically, a control section 25 controls the adjustable compression zone 24 by referring to the data quality table shown in drawing 3 to compress data by the compression method of ATRAC1 by C1.

[0071] In addition, in step S4, based on retrieval processing of step S3, genre information may be generated by the data source 20 side, and it is not necessary to refer to the genre information sent from the data sink 10 in this case.

[0072] And the control section 25 of the data source 20 controls a modem 21 by referring to user ID in continuing step S5 to transmit the data concerned which performed compression processing to the data sink 10 by the side of a user through a communication line 30.

[0073] Thereby, the control section 16 of a data sink 10 controls a modem 11 to receive the compressed data transmitted from the data source 20, controls the adjustable elongation section 13 and performs elongation processing of

compressed data so that the compressed data received further may be thawed (step S6). In addition, in saving compressed data here, a control section 16 controls a modem 11 and HDD12 to record on a hard disk by using as record data compressed data received with the modem 11.

[0074] If defrosting of compressed data is started by the above-mentioned elongation processing, a control section 16 shifts to step S7, and will be in the condition of waiting for the playback directions to the data concerned under defrosting. That is, the control section 16 of a data sink 10 will shift to step S8, if it stops at step S7 and the signal of playback directions is inputted until the control input signal which directs playback of data from the actuation input section 17 is inputted.

[0075] And in the step S8 after the signal of playback directions was inputted, a control section 16 starts regeneration of playback data by controlling the regeneration section 14. In a data sink 10, the acquired data carry out as a regenerative signal of an analog by this, the output section 15 is supplied, and classical music is outputted from the loudspeaker of the output section 15.

[0076] A control section 16 judges whether playback of the data concerned was completed by detecting the receive state of a modem 11 in continuing step S9.

And it stops at step S9 until it judges with playback of data having been completed, and if it judges with playback of data having been completed, it will progress to step S10.

[0077] It goes into the selection mode about whether regeneration of data is terminated at step S10. When termination of regeneration is chosen by actuation of a keyboard here, a series of processings mentioned above are completed. When selection which does not terminate regeneration is made on the other hand (for example, when reproducing the record data stored in the above HDD 12), processing to return, step S7 - step S9 is repeated to the above-mentioned step S7.

[0078] In addition, in this data transceiver system 1, it is also possible to specify the concrete time amount of data transfer at a data sink 10 side as a user "sends the data of a certain classical music in 3 minutes", for example by operating with a mouse etc. the location of directions section 4b in the transfer-time setting section 4 shown in drawing 2 etc.

[0079] in this case, the time amount specified by the above-mentioned user in the total capacity of the data before compression with which the control section 25 of the data source 20 is supplied from the data retrieval processing section 23

in the above-mentioned step S4 -- **** -- the average transfer rate of the data concerned is computed by things. And a control section 25 determines compressibility by controlling the above-mentioned modem 21 by feeding back a difference with the average transfer rate by which detected the rate (henceforth a real transfer rate) in which data transfer is possible between the data source 20 and a data sink 10, and calculation was carried out [above-mentioned] with this detected real transfer rate to the adjustable compression zone 24. In addition, don't refer to the data quality table shown in drawing 3 in this case for a control section 25. And a control section 25 controls the adjustable compression zone 24 to compress the data concerned with the determined compressibility, and is made to progress to step S5.

[0080] Since the data transfer within the time amount which the user specified becomes possible in the data transceiver system 1 by this, if it is download for less than 3 minutes, for example, when considering as service within between [which is called a fixed amount] scheduled time, facilities can be given to a user.

[0081] In addition, the data source 20 transmits the data which tell the purport "which is not downloadable in the specified time amount" to a data sink 10 side, and when the high compressibility which cannot respond was needed, it should

just constitute a data sink 10 from an adjustable compression zone 24 as a result of determining the above-mentioned compressibility, when the compressibility concerned has exceeded the fixed threshold so that this data may be displayed on the monitor of the output section 15.

[0082] As mentioned above, in the data transceiver system 1, a data transfer method, the transfer time, etc. can be chosen as a data quality and a concrete target according to the demand by the side of a user. Namely, by this invention, the demand of the user who is a receiving side is fully reflected about the data quality transmitted, and the service with which use was kept at arm's length by relation with accounting etc. can use now at a low tariff. Moreover, since it becomes possible for download to state, to shorten the utilization time sharply as a whole, and to aim at a deployment of a communication line 30 according to this invention, confusion of a data transmission medium is avoidable. Furthermore, since according to this invention the relation of the transmitted data quality and the frame of accounting becomes clear in charging to the transmitted amount of data [say / how much], for example to 1 megabyte of download, also when considering as such service, facilities can be given to a user.

[0083] Furthermore, according to this invention, the futility on a system is

excluded and use and offer of efficient service are attained by both the user and the service provider.

[0084] In addition, in the gestalt of operation mentioned above, although the example of 1 configuration of the system of MOD was explained, as for this invention, it is needless to say for it to be able to apply also about the system which is not limited to this and distributes what kind of digital data about the so-called multimedia information, such as VOD, and still picture data, text data, program data.

[0085] Moreover, with the gestalt of operation mentioned above, although the compression method of the data based on the adjustable compression zone 24 was made into four kinds, this invention is not limited to this and, as for the adjustable compression zone 24, two or more kinds of compression methods with which compression rates differ mutually at least should just be set up. Similarly, two or more kinds of elongation methods corresponding to the compression method of the above-mentioned adjustable compression zone 24 also in the adjustable elongation section 13 of a data sink 10 should just be set up.

[0086] Furthermore, although considered as the configuration which stores the

data which are not compressed into the hard disk array 22, and compresses this data by the adjustable compression zone 24 with the gestalt of operation mentioned above, this invention is good also as a configuration which stores beforehand the data which are not limited to this and compressed into the hard disk array 22. In this case, although it is necessary to store at least two or more kinds of data with which compression rates differ mutually about one music data etc., since the adjustable compression zone 24 becomes unnecessary, the data source 20 whole can be considered as a simple configuration. Moreover, since compression processing of step S4 explained by drawing 4 becomes unnecessary in this case, simplification of control processing of a control section 25 can be attained.

[0087]

[Effect of the Invention] Since the data from which the data quality conversion means of the data source changed data into predetermined quality, and was changed are returned to a data sink side based on the data quality assignment information from a data sink according to the data transceiver system concerning this invention as explained to the detail above, it becomes possible to choose the data quality transmitted to a receiving side from a transmitting side

according to the demand by the side of a user.

[0088] Moreover, since the data with which the data source corresponds based on the data specification information from a data sink are returned to a data sink in the predetermined quality based on the genre to which the data belongs according to the data transceiver system concerning this invention, it becomes possible to build the system by which the demand of a user was reflected about the data transfer method.

[0089] Furthermore, since according to the data transceiver system concerning this invention the data source computes the compressibility of the data concerned and the data of the quality corresponding to it are returned to a data sink based on the data specification information and transfer-time assignment information from a data sink, it becomes possible to build the system by which the demand of the user about a data transfer time was reflected.

[0090] Since it is received by the user side by changing data into predetermined quality by the server side, and returning this data based on directions of the quality from a user side according to the data transmitting and receiving method concerning this invention, it becomes possible to choose the data quality transmitted to a receiving side from a transmitting side according to a demand of

a user.

[0091] Moreover, since data are returned in the predetermined quality according to the genre to which the data concerned belong based on directions of the data which should be returned according to the data transmitting and receiving method concerning this invention, it becomes possible to make a demand of a user reflect about a data transfer method.

[0092] Furthermore, since according to the data transmitting and receiving method concerning this invention the compressibility of the data concerned is computed from the data volume of data and the transfer time which were directed based on directions of the data which should be returned, and the data transfer time amount concerned at the time of return and the data of the quality corresponding to it are returned, it becomes possible to make a demand of the user about a data transfer time reflect.

[0093] According to the data sink concerning this invention, based on the table corresponding to genre quality, data specification information and data quality assignment information are transmitted. Since it is reproduced by the playback means after receiving the request returned based on each [these] information, and the data based on predetermined quality and elongating this received data

with the elongation percentage corresponding to data quality assignment information The data quality returned from a server side is chosen according to a genre, and it becomes possible to reproduce.

[0094] Moreover, since [according to the data sink concerning this invention / a data transceiver means] the time amount assignment information specified that it returns data within predetermined time amount is added to data specification information and it transmits to it, it becomes possible to make a demand of the user about the data transfer time amount returned from a server side reflect.

[0095] Since the data which directed the data which should return using the table corresponding to the genre quality which matches the genre to which data belong, and the quality to change, and the data quality concerned at the time of return, and received them with the elongation percentage according to the genre of the directed data elongate according to the data receiving approach concerning this invention, the data quality returned from a server side chooses according to a genre, and it becomes possible to reproduce.

[Brief Description of the Drawings]

[Drawing 1] It is the block diagram showing the example of 1 configuration of the

data transceiver system which applied this invention.

[Drawing 2] It is drawing having shown the monitor display screen for explaining

an example of GUI used in a data sink.

[Drawing 3] It is drawing having shown an example of the data quality table

which matches the genre and data quality of the data used in the data source.

[Drawing 4] It is a flow chart for explaining the processing about the transmission and reception of data performed between a data sink and the data source in a data transceiver system.

[Description of Notations]

1 Data Transceiver System, 10 Data Sink, 20 Data Source, 30 11 Communication Line, 21 Modem, 12 HDD, 13 Adjustable Elongation Section, 14 Regeneration Sections, 15 Output Section, 16 Control Section, 17 Actuation Input Section, 22 Hard Disk Array, 23 Data Retrieval Processing Section, 24 Adjustable Compression Zone, 25 Control Section